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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,440	06/12/2001	Jaakko Rajaniemi	4925-115 PUS	8145

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EXAMINER	
CONTEE, JOY KIMBERLY	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/856,440	RAJANIEMI, JAAKKO	
	Examiner	Art Unit	
	Joy K Contee	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *15 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1,4-24 and 26-29 is withdrawn in view of the newly discovered reference to Schon et al.. Rejections based on the newly cited reference follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,4-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over LeBlanc et al. (LeBlanc), WO 98/10538, in view of Schon et al. (Schon), U.S. Patent No. 6,131,030.

Regarding claim 1, LeBlanc discloses a method for location management in a cellular telecommunication system supporting macro diversity connections, characterized in that, regarding a macro diversity situation it comprises the steps of:

assigning priority levels to the cells of an active set of a macro diversity connection (page 27, lines 24-31) , and

at least partly based on the priority levels, determining a cell to be used as the location of the mobile station (page 37, lines 15-18).

LeBlanc fails to explicitly disclose in a macrodiversity connection, each cell in an active set of base station cells maintains a radio connection with a mobile terminal, the mobile terminal divides one signal to transmit on each of the radio connections, and the cellular system receives and combines the received signals to produce the original signal and wherein the step of assigning priority levels comprises classifying each cell in the active set as either being in a serving cell set or not and selecting a master cell from the serving cell set wherein said master cell is to be used for at least one of connection management and location procedures between the cellular system and the mobile station.

In a similar field of endeavor, Schon discloses in a macrodiversity connection, each cell in an active set of base station cells maintains a radio connection with a mobile terminal, the mobile terminal divides one signal to transmit on each of the radio connections, and the cellular system receives and combines the received signals to produce the original signal and wherein the step of assigning priority levels comprises classifying each cell in the active set as either being in a serving cell set or not and selecting a master cell from the serving cell set wherein said master cell is to be used for at least one of connection management and location procedures between the cellular system and the mobile station (col.7,lines 34-50).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify LeBlanc to include in a macro diversity environment, selecting a master cell out of the serving cell set which is the active set such that a mobile station connection can be supported by more than one cell simultaneously.

Regarding claim 3, LeBlanc discloses a method according to claim 2, characterized in that one of the cells in the serving cell set is selected to be a master cell (page 22,lines 13-16 and page 57, lines 19-20).

Regarding claim 4, LeBlanc discloses a method according to claim 3, characterized in that said selection is performed by the network (page 43,lines 21-25 and page 57, lines 18-20) .

Regarding claim 5, LeBlanc discloses a method according to claim 4, characterized in that the network performs the selection of the master cell as a response to a message received from the mobile station, which message does not contain an indication of a master cell (page 22,lines 13-16 and page 57, lines 19-20).

Regarding claim 6, LeBlanc discloses a method according to claim 3, characterized in that said selection is performed according to a predefined rule (page 13, lines 18-21 and page 27, lines 24-31 and page 57, lines 18-20).

Regarding claim 7, LeBlanc discloses a method according to claim 6, characterized in that the cell of the serving cell set which has been in the active set for the longest time is selected to be the master cell (page 22, lines 12-26) .

Regarding claim 8, LeBlanc discloses a method according to claim 3, characterized in that said selection is performed by the mobile station network (page 43,lines 21-25 and page 57, lines 18-20) .

Regarding claim 9, LeBlanc discloses a method according to claim 8, characterized in that the cell selected by the mobile station is indicated to the network in a message sent by the mobile station (page 22,lines 13-16).

Regarding claim 10, LeBlanc discloses a method according to claim 8, characterized in that - the mobile station requests location information from the network, - the mobile station receives a response to the request from the network, and the selection of the master cell is performed at least partly based on said response (page 23, lines 24-27 and page 29 lines 29-32).

Regarding claim 11, LeBlanc discloses a method according to claim 8, characterized in that said selection is performed at least partly on the basis of information about localized services of the network stored in the mobile station. 10 12. A method according to claim 1, characterized in that the priority levels of the cells in the active set are changed as a response to serving RNC relocation (page 67,lines 14-17).

Regarding claim 13, LeBlanc discloses a method according to claim 2, characterized in that as a response to serving RNC relocation, the cells of the active set which were designated as being in the serving cell set are designated as being outside the serving cell set, and the cells of the active set which were designated as being outside the serving cell set are designated as being in the serving cell set (page 19,lines 14-31).

Regarding claim 14, LeBlanc discloses a method according to claim 2, characterized in that the mobile station designates those cells of the active set as being in the serving cell set, which cells are listed in a message received from the network

informing the mobile station about a serving RNC relocation, and designates other cells of the active set as being outside the serving cell set (page 71,lines 5-14).

Regarding claim 15, LeBlanc discloses a method according to claim 2 used in a cellular telecommunication system comprising a first network element for controlling circuit switched connections and a second network element for controlling packet switched connections, characterized in that when a mobile station has an active connection to a first of the first and second network elements and no active connections to a second of the first and second network elements, a location update to said second of the first and second network elements is performed at least partly as a response to a change in said serving cell set (page 71, lines 5-14).

Regarding claim 16, LeBlanc discloses a method according to claim 15, characterized in that said location update is performed at least partly as a response to the changing of all cells in the serving cell set (page 57,lines 19-20).

Regarding claim 17, LeBlanc discloses a method according to claim 15, characterized in that said location inherently updates are performed at least partly as a response to removing of the last of those cells in the serving cell set, which cells were in the serving cell set when a location update was performed the previous time (page 22, lines 13-16 and page 57, lines 19-20).

Regarding claim 18, LeBlanc discloses a method according to claim 15, characterized in that the method comprises steps, in which - the mobile station requests location information from the network,- the mobile station receives a response to the request from the network, and - the mobile station makes a decision about whether or

not to perform a location update to said second of the first and second network elements at least partly based on said response (page 23, lines 24-27 and page 29 lines 29-32).

Regarding claim 19, LeBlanc discloses a method according to claim 2 used in a cellular telecommunication system comprising a first network element for controlling circuit switched connections and a second network element for controlling packet switched connections, characterized in that when a mobile station has an active connection to a first of the first and second network elements and no active connections to a second of the first and second network elements, a location update to said first of the first and second network elements is performed at least partly as a response to a change in said serving cell set (page 71, lines 5-14).

Regarding claim 20, LeBlanc discloses a mobile station for a cellular telecommunication system comprising a cellular network, which mobile station has means for communicating using macro diversity connections in which the mobile station communicates with the cellular network via a plurality of cells, said means for communicating comprising receiving means, characterized in that

the receiving mans are arranged to receive information for construction of a priority order for the plurality of cells with which the mobile station communicates in a macro diversity connection (page 27, lines 24-31 and page 28,lines 17-21), and

the mobile station comprises selecting means that are arranged to select a master cell to be used as the location of the mobile station at least partly on the basis of said priority order (page 22,lines 13-16 and page 57, lines 19-20).

Regarding claim 21, LeBlanc discloses a mobile station according to claim 20, characterized in that the mobile station further comprises means for indicating the selected master cell to the network (page 24l ines 19-21 and page 24, lines 28-31).

Regarding claim 22, LeBlanc discloses a system for location management in a cellular telecommunication system characterized in that

the system is arranged to transmit to a mobile station information for construction of a priority order for the plurality of cells with which said mobile station communicates in a macro diversity connection (page 11, lines 21-26 and page 22, lines 1-8 and page 27, lines 24-31 and page 28, lines 17-21), and

the system is arranged to receive from a mobile station, after having transmitted to said mobile station information for construction of a priority order for the plurality of cells with which said mobile station communicates in a macro diversity connection (page 22, lines 13-16 and page 57, lines 18-20),

information specifying a master cell and to indicate the specified cell as the location of the mobile station to a core network of the cellular telecommunication system (page 24, lines 19-21 and page 24, lines 28-31).

Regarding claim 23, LeBlanc discloses a system according to claim 22, characterized in that the system is located in a radio access network of the cellular telecommunication system (see Fig. 2, page 20, lines 11-22).

Regarding claim 24, LeBlanc discloses a system according to claim 23, characterized in that the system is located in the radio network controller of said radio access network (see Fig. 2, page 20,lines 11-22).

Regarding claim 25, LeBlanc and Schon disclose the method of claim 1, wherein the serving cell set comprises those cells under the control of serving radio network controller which receives the signals form the mobile station and combines them to produce the original signal from the mobile station (see LeBlanc, page 33, lines 16-31).

Regarding claim 26, LeBlanc and Schon disclose the method of claim 1, wherein the connection management procedures for which the master cell is to be used comprises a connection management service request procedure (see LeBlanc, page 33,lines 16-31).

Regarding claim 27, LeBlanc and Schon disclose the method of claim 26, wherein the CM service request procedure comprises a mobile originated CM service request procedure (see LeBlanc, page 33,lines 24-31).

Regarding claim 28, LeBlanc and Schon disclose the method of claim 1, wherein the location procedures for which the master cell is to be used comprises a inherent location updating procedure (see LeBlanc, page 57,lines 18-32).

Regarding claim 29, LeBlanc and Schon disclose the method of claim 1, wherein the at least one of connection management and location procedures for which the master cell is to be used comprises a paging responses through a radio resource control connection (see LeBlanc, page 25,lnes 15-21).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K Contee whose telephone number is

571.272.7906. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571.272.7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JC

JOY K. CONTEE
PATENT EXAMINER

05/28/05

TEMICA BEAMER
PRIMARY EXAMINER